



**WASHER - E**  
**900/1150/1500/1800**

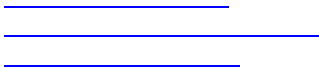
**USER AND MAINTENANCE MANUAL**



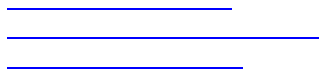
**READ THIS MANUAL CAREFULLY TO ENSURE THE BEST PERFORMANCE FROM YOUR MACHINE.**

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## 2 INTRODUCTION

### 2.1 TERMS

THE INSTRUCTION MANUAL IS TO BE CONSIDERED AN ESSENTIAL PART OF THE MACHINE AND MUST BE KEPT UNTIL THE DISMANTLING OF THE MACHINE.

THE MANUAL MUST BE KEPT BY THE MACHINE AND BE AVAILABLE TO THE OPERATOR AT ALL TIMES. KEEP IT PROTECTED AND CLEAN.

### 2.2 CONTENTS OF THE MANUAL

This manual contains a description of the machine and its technical characteristics, information about its safe use and maintenance.

### 2.3 PURPOSE OF THE MANUAL AND INTENDED RECIPIENTS

This instruction manual is intended for the:

- User
- Owner
- Manager
- those responsible for moving the machine
- installers
- those responsible for maintenance
- those responsible for final dismantling

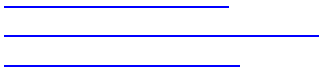
The information contained in the instruction manual describes the use of the machine and its technical characteristics, as well as providing instructions for moving, installing, assembling and adjusting the machine. It also contains information regarding staff instruction, on directing maintenance operations and on the safety of the machine and the workers operating it.

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### 2.4 CONTENTS OF THE MANUAL AND KEY

This manual is made up of the following parts:

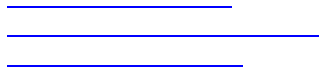
- Introduction
- General information about the machine
- Essential general safety principles
- Specific instructions for the different phases of the machine's life
- Specific instructions for maintenance and adjustment
- Attachments

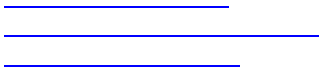


- The following symbols have been used in the manual:

	<b>IMPORTANT</b> This symbol is used to indicate recommendations, rules, references and information which anyone involved in use of the machine must bear in mind throughout its life (installation, use, maintenance, dismantling etc.).
	<b>EMPLOYEES</b> This symbol is used to indicate information which employees responsible for operating the machine must bear in mind while using it.
	<b>CAUTION</b> This symbol is used in the manual's safety messages to indicate hazards, which, if ignored, could cause slight or moderate injury or damage. The message may also be used merely to highlight conditions that might cause damage to the machine.
	<b>DANGER</b> This symbol is used in the manual's safety messages to indicate conditions that must be strictly avoided while using the machine, during maintenance operations or in situations of potential hazard as likely to cause serious injury or death.

To prevent accidents read, understand and follow all the precautions and directions contained in this manual and those shown on the plates attached to the machines.





## 4 VALIDITY AND COPYRIGHT

### 4.1 GENERAL

This user and maintenance manual, complete with all the attachments are the sole documentation provided with the system and should accompany it for the duration of its active life.

The manufacturer's responsibility for damage by a defective product expires after 10 years of operation.

In the event of loss or deterioration, the replacement documentation should be requested from the company against payment, quoting the serial number written on the identification plate of the machine.

### 4.2 VALIDITY OF THE MANUAL

The user is reminded that this manual reflects the technical and technological state of the art used in the construction of the system and valid at the moment of its marketing. It should not therefore be considered as inadequate or obsolete if subsequently updated in line with new developments.

### 4.3 TRANSFER OF THE MACHINE

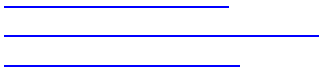
In the event of sale of the machine to a third party, the User is bound to hand over this manual together with all the associated documentation with the machine itself and to communicate the name and address of the new user to the manufacturer.

### 4.4 RIGHTS OVER THE MANUAL

The manufacturer reserves the right to update its products and, as a result, the applicable user and maintenance manual without having to inform the Client of the changes brought about.

### 4.5 COPYRIGHT

This manual is the sole property of the manufacturer. The transfer of this manual to third parties must be authorised by the manufacturer. It is expressly forbidden to copy or reproduce the designs and documentation contained in this manual by any means, even partially. All violations are punishable according to the law and provide for compensation of damages by virtue of commercial copyright.



## 5 TERMS OF WARRANTY

The legal provisions in force are applicable to the terms of warranty. The Following points should taken in account.

### 5.1 WARRANTY DEFINITION

The warranty covers the replacement or repair of the defective part (component or part of the system) with the exception of assembly, dismantling and delivery costs.

### 5.2 DECLARATION OF FAULTS AND DEFECTS

The Purchaser will invalidate the warranty, should they fail to give written communication within eight days of any operational faults and/or defects. (the manufactures home court takes precedence).

The fault and/or defect will be determinated by the manufacturer.

### 5.3 DURATION OF THE WARRANTY

The warranty is valid for 12 months from the delivery date communicate in writing to the customer. Were the customer has more than one shift the warranty will be reduced by one day per extra shift.

### 5.4 OWNERSHIP OF SUBSTITUTED MATERIAL

Any component or part replaced under guarantee is the exclusive property of the manufacturer.

### 5.5 EXCEPTIONS TO THE WARRANTY

The following are not covered by the warranty:

- parts damaged during transportation;
- parts subject to normal wear and tear caused by atmospheric and environmental agents;
- parts damaged by lack of maintenance or insufficient or incorrect maintenance;
- parts damaged by inexperience, improper or unauthorised use;
- parts damaged by use of the machine with unauthorised parts;
- parts damaged by unauthorised modifications or repairs and/or tampering;
- parts damaged by operations for unauthorized inspections.

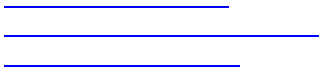
### 5.6 LIMITATION OF THE WARRANTY

The warranty automatically expires in the case of:

- repairs, modifications or removal of components that were not previously agreed and approved by the manufacturer;
- improper or negligent use by the user;
- insufficient maintenance of the machine;
- failure to follow the instructions given in the following user and maintenance manual;
- having used washing liquids that are not accepted by the manufacturer;
- removal of the safety devices, which the machine fitted with.

If a technical or a malfunctioning occurs, we recommend that you promptly notify the servicing centre of the manufacturer.





**5.7 COMPETENT COURT**

The Court of Padua shall have sole jurisdiction in the event of any dispute.

**5.8 WARRANTY**

On delivery, check that the machine has not suffered any damage during transportation and that the accessory equipment is complete.

At the moment of requesting intervention under guarantee, the user must indicate the serial number and the year of construction.

The machine warranty is subject to the following conditions:

The machine is guaranteed for a period of twelve months from the delivery date, certified by a document issued by the manufacturer.

The warranty covers the replacement or the free repair of the component parts recognised as defective at origin due to manufacturing defects, without charging any labour costs.

Assistance under warranty is carried out at the manufacturer's head office, where the machine must be delivered carriage free and will be rendered at the client's risk and expense. For any technical intervention required under warranty at the client's premises, the costs related to the time necessary for the transfer, travel expenses and all the board and lodging of the required staff, as well as the rate normally in use, will be charged. No sum will be charged for the time needed for the workers to replace the parts under guarantee.

The manufacturer declines all responsibility for any damage that may result in injury to people or objects, either directly or indirectly as a consequence of failure to observe all the instructions given in this manual and the warnings about positioning, installation, use and maintenance of the machine.

This warranty does not cover any compensation for damages, direct or indirect, caused by a period of inefficiency of the machine.

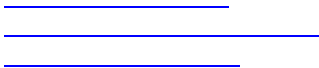
Any intervention under warranty is conditional to the regularity of any ongoing payments.

**5.9 LIABILITY**

THE INSTRUCTION MANUAL IS TO BE CONSIDERED AN ESSENTIAL PART OF THE MACHINE AND MUST BE KEPT UNTIL THE DISMANTLING OF THE MACHINE.

The manufacturer declines any responsibility deriving from:

- improper, erroneous or unreasonable use of the machine;
- use in breach of current national legislation in force;
- incorrect installation of the machine
- electric power supply defects;
- pneumatic power supply defects;
- scheduled maintenance deficiencies;
- unauthorised modifications or intervention;
- use of non-original spare parts and products specific for the model in use;
- failure to follow the instructions in this manual .



## 6 MACHINE MARKINGS

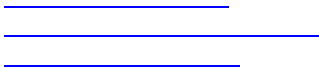
This machine is fitted with a plate showing the following information:

- 1) Manufacturer's name and address
- 2) Machine model
- 3) Serial number of the machine
- 4) Year of production
- 5) CE Mark
- 6) Requires air supply
- 7) ATEX certified
- 8) Power Requirements 220/230 V - 50/60Hz
- 9) Power Requirements 380/400 V - 50/60Hz
- 10) Single phase power supply
- 11) Three phase power supply
- 12) Maximum power installed

The identification plate must remain undamaged and legible, it shows the details required by the manufacturer, to aid the customer should need arise.

The plate, which bears the CE conformity mark, is the means by which the machine is identified and is recognised by the manufacturer. The picture shows an example of this plate.

	<b>GE.i.COS</b> DGS CLEANING EQUIPMENT FOR INDUSTRY	
D.S. srl - Via Sesta Strada, 4D 35023 Bagnoli di Sopra (PD) - ITALY Tel. +39 049 5380281 Fax +39 049 9535325 www.geicosgroup.com - info@geicosgroup.com		
Made in Italy		
MOD.	<input type="text"/>	
S/N	<input type="text"/>	PROD. <input type="text"/>
6/10 BAR	<input type="checkbox"/>	
220/230 V - 50/60 Hz	<input type="checkbox"/>	380/400 V - 50/60 Hz <input type="checkbox"/>
~1F	<input type="checkbox"/>	~3F <input type="checkbox"/>
	KW	<input type="text"/>



## **7 TRANSPORT**

### **7.1 PACKAGING**

The machine may be shipped packaged in the following ways:

- Positioned on an appropriate supporting pallet, contained in a cardboard box.
- Positioned on an appropriate supporting pallet, covered in cellophane tape.

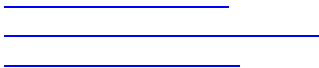
### **7.2 MOVING**

The moving of the machine or of one of its parts must be performed solely by authorised technicians who will move it by means of a forklift truck or pallet truck.

Do not attempt to move the machine by having people push it or by hauling with cables.

Make sure that the vehicle used for moving it is sufficiently powerful and fully functioning.

Keep anyone not involved in the moving operations away from the area where the machine is being moved.



## 8 CHARACTERISTICS OF THE MACHINE

### 8.1 LIMITS OF THE MACHINE

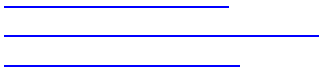
The machine is suitable solely for the automatic washing of small to medium-sized parts and objects covered in oil or grease. This machine has been designed and produced for use solely with water-based detergent products. The use of any other inappropriate detergent product (specifically hydrocarbon solvents and chloride solvents), is dangerous and will result in invalidation of the warranty and CE certification of the machine itself.

A tabel shows the machine maximum dimensions depending on the model



MODEL	u.m.	900 E	1150 E	1500 E	1800E
DEPTH	mm	1105	1355	1600	2000
WIDTH	mm	1185	1470	1850	2250
HEIGHT	mm	1170	1320	1320	1350
BASKET DIAMETER	mm	890	1140	1460	1800
LOADING HEIGHT	mm	750	750	750	950
USEFUL HEIGHT	mm	450	550	550	550
TANK CAPACITY	litri	130	210	250	270
BASKET LOAD CAPACITY*	kg	400	400	400	400
WEIGHT	kg	180	220	300	450
POWER SUPPLY	V	400 3~	400 3~	400 3~	400 3~
PUMP POWER	KW	1.85	2.2	3	2.2 + 2.2
RESISTOR POWER	KW	6	6 +3	6 + 3	6 + 6
TOTAL POWER	KW	8.5	12	12.8	17.5
PUMP FLOW	litri/min	130	150	150	150 +150
PUMP PRESSURE	BAR	3.5	4.5	5.5	4.5 + 4.5
GEARMOTOR		YES	YES	YES	YES
N° NOZZLES	Pz.	46	64	70	70

\* Distributed load uniformly inside the drum.



## 8.2 DESCRIPTION OF THE MACHINE

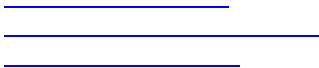
The machine is constructed of a stainless steel AISI 304 container divided into two bays, one on top of the other.

The lower bay is divided into two sections. The front section is composed of the collection tank containing the washing liquid as well as the electric heater (if present for heating the liquid) and the basket filter. The ball valve, situated below the tank permits draining of the liquid for cleaning of the tank itself. The rear section contains the electric pump and piping connected to it. It is forbidden to store any type of material in this section.

In the second, upper bay, the washing operations are performed. This bay must not contain the detergent liquid, which must flow through the basket filter into the tank in the lower bay. It contains the rotating basket for the parts and the washing pipes. The basket rotates freely on its axis (not in the versions with motorised basket), being mounted on bearings; its rotation is caused by the force of the jets of washing liquid striking the parts and the basket itself or in the motorised version it is made to rotate by a geared motor mounted in the rear section of the lower bay. Access to this bay is through the rear casing of the machine. Opening of the lid is facilitated by two gas springs.

The control panel is situated on the outside of the machine, on the right side and the vapour vent is on the rear side.

The control panel contains the control devices and commands. On the door of the panel is the mains switch with door block; on the right side of the panel is the socket for connecting the machine to the power supply; on the left side are the warning lights indicating that the mains switch is on and therefore that the appliance is live; that the pump is on (washing phase), for the heated versions there is a light indicating that the electric heater is on (heating phase), a light indicating that the basket is rotating (optional motorised parts basket), the timer to set the washing time, the thermostat knob to adjust the temperature of the washing liquid (only for heated versions) and the “economy” selector to turn ON or OFF the supplementary resistor (only in the model with two heaters).

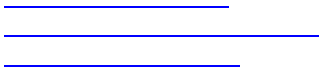


8.3 MAIN PARTS OF THE MACHINE

The pictures below show the main parts of the machine which are then listed in the following table.

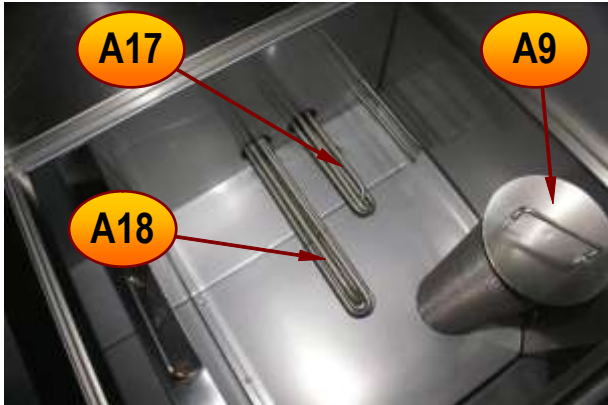
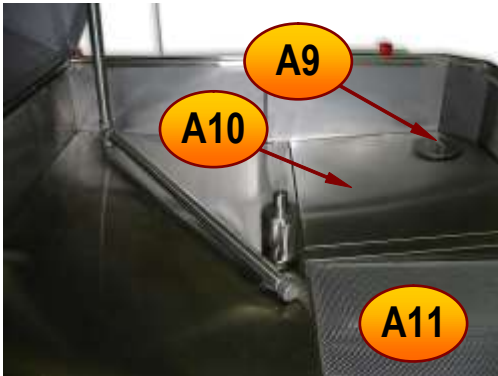
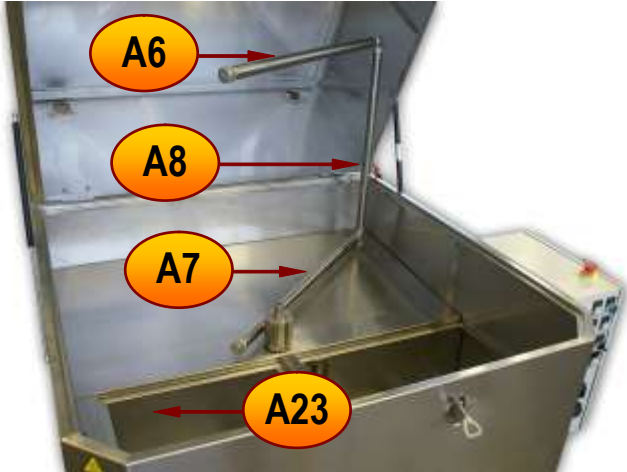


MAIN PARTS OF THE MACHINE	
E1)	Cover/Lid
E2)	Lower/tank
E3)	Control panel
E4)	Rear casing

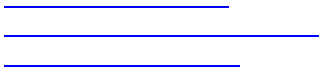


8.4 MAIN COMPONENTS OF THE MACHINE

the pictures below show the main components of the machine which are then listed in the following table.

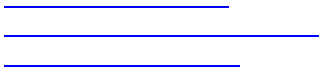






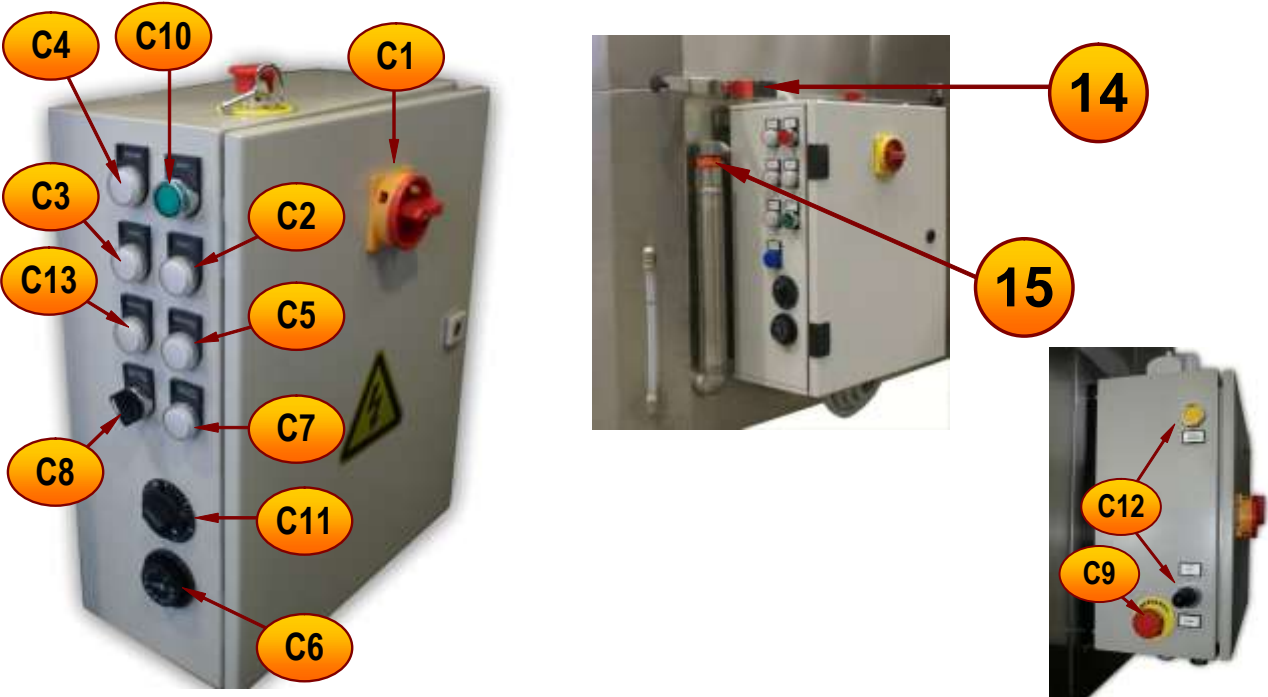
MAIN COMPONENTS OF THE MACHINE	
A1)	Rotating Basket
A2)	Level Full Marker
A3)	Minimum level sensor
A4)	Gas Strut
A5)	Safety Swich
A6)	Upper spray arm
A7)	Lower spray arm
A8)	Vertical spray arm
A9)	Filter
A10)	Upper drain
A11)	Upper Filter
A12)	Main Drain
A13)	Oil Skimmer (as optional)
A14)	Oil Skimmer Drain (as optional)
A15)	Oil Skimmer Disk (as optional)
A16)	Settling Filter
A17)	Main Heater
A18)	Secondary Heater
A19)	Pneumatic Actuator (only model with pneumatic opening)
A20)	Descent Blocking Valve (only model with pneumatic opening)
A21)	Electrical Panel Plug
A22)	Air Plug (only model with pneumatic opening)
A23)	Maximum Tank Level Indicator



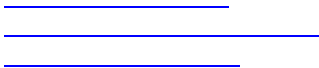


**8.5 MAIN COMPONENTS OF THE MACHINE**

the pictures below show the main components of the machine which are then listed in the following table.



MAIN COMPONENTS OF THE MACHINE	
C1)	Main Switch
C2)	Basket-On Light
C3)	Pump-On Light
C4)	Power-On Light
C5)	Main Heating Heater Light
C6)	Temperature Controller
C7)	Minimum Level Indicator Light
C8)	ON/OFF Switch for Secondary Heating Heater (only on Washer 1150E / 1500E)
C9)	Emergency Stop Button
C10)	RESET/START Button
C11)	Timer
C12)	Opening Lid Swich (only model with pneumatic opening)
C13)	Secondary Heater Element – On Light (only on Washer 1150E / 1500E)
C14)	Safety Switch (optional)
C15)	Minimum Water Sensor



## 9 INSTALLATION

INCORRECT INSTALLATION OF THE MACHINE MAY CAUSE INJURY TO PEOPLE, ANIMALS OR THINGS. THE MANUFACTURER WILL NOT BE HELD LIABLE FOR SUCH DAMAGE.

### 9.1 INSTALLATION OF THE ELECTRICAL SYSTEM

The User must arrange for installation of a power line composed of an electrical system, suitable for the power required. The power line plug should be installed as close as possible to the machine, an indoor wall switch with emergency cut out should be installed.

The electricity systems must be constructed in strict observance of applicable construction, installation, use and maintenance standards. The manufacturer declines any responsibility towards the user or third parties for any damage which may be caused by malfunctioning or failure of the systems installed upline of the machine and for any damage caused by the machine as a direct consequence of malfunctioning of the electrical system.

MODEL	u.m.	900E	1150E	1500E	1800E
supply	plug	3P+T 380V 16 A	3P+T 380V 32 A		

### 9.2 INSTALLATION OF THE LIGHTING SYSTEM

The User must make sure that there is suitable lighting for the surroundings and that the lighting conforms to the regulations in force. Specifically, the User must provide a spotlight situated so as to illuminate the entire working area.



### 9.3 POSITIONING

The machine must be positioned in a well ventilated place.

The area must meet the guidelines for health and safety of the workers in the workplace (with specific regard to HSG258).

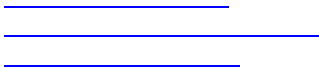
Position the machine on a level surface and make sure that there is sufficient space around it to carry out normal maintenance operations or inspections.

### 9.4 EARTHING

The user is responsible for the efficiency of the earthing of the electrical system of the plant.

We remind you that the earthing connection of the electrical system must be verified by law and the relative declaration filed for inspection on request by a relevant competent public body.

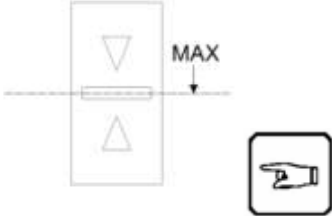




9.5 PUTTING INTO USE

The operations for connecting the machine to the pneumatic or electrical mains supply are described below.

- 1) Check that the *drainage valve* is shut.
- 2) Fill the collection tank of the machine with water until the *level indicator* reaches the FULL line on the *level indicator plate*.
- 3) Insert the plug coming from the mains circuit into the *rear socket* of the control panel first making sure that it is in the OFF position.
- 4) Turn the wall-mounted mains switch to ON.
- 5) Press the *RESET/START* Button.
- 6) Close the Lid, engaging the *safety switch*.
- 7) Remove the back panel. Check the direction of rotation of the *pump* by pressing the *timer* for a few seconds.
- 8) If the pump should rotate in the opposite direction to that indicated by the arrow, first turn the wall-mounted mains switch to OFF.
- 9) Disconnect the plug from the *rear socket* of the *command panel*.
- 10) Have the power supply phases inside the control panel checked by qualified personnel.
- 11) Repeat steps 3 to 7
- 12)



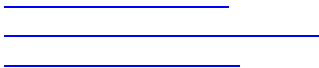
Caution: check that the pump is correctly connected and functioning (on first start-up only). To do this turn on the machine and listen carefully to hear the liquid hitting the blades of the rotor. If you cannot hear this noise despite hearing that the pump is functioning, the power supply phases of the current need to be inverted.



Caution: before leaving the factory the machine is tested (made to function) by the manufacturer and some water is left inside the pump on purpose to prevent it from being damaged should it be turned on when empty. It is strictly forbidden to turn on the pump before filling the washing liquid tank.



For correct functioning read the chapters on use and maintenance and carefully follow the instructions and warnings given.



**10 RULES FOR USE**

**10.1 FORESEEN USE**

The machine is an electric and/or pneumatic appliance used for automatic washing.



The machine is intended for use by qualified staff.

The term “qualified”, is taken to mean staff who have been instructed and trained by the employer in the use of the machine and the risks that such use may entail (art. 22 Heading VI, Title III of legislative decree 626/94 on the obligation of staff training when introducing new equipment).

Specifically, the users must also be instructed based on this user and maintenance manual and the machine must only be used for the use for which it has been designed as indicated in the manual.

These obligations also apply to operators involved in the transport, installation, maintenance and dismantling of the machine, each in relation to his own sphere.

Given that this is a complex machine which may only be used by instructed and trained staff, access to the area around the machine should not be used by anyone who has not received the necessary training from the employer.

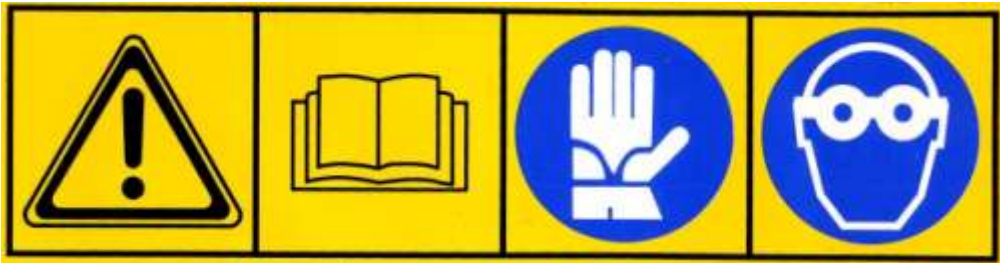


**10.2 PICTOGRAMS SHOWING WARNINGS, OBLIGATORY AND FORBIDDEN OPERATIONS**

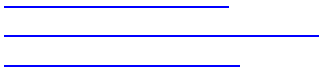
Use rubber gloves to prevent contact of the hands with any products used for washing.

Always wear protective goggles to prevent any spurts of the product from coming into contact with the eyes.

The warnings, obligatory and forbidden operations which must be followed in order to operate safely and to prevent accidents, are shown on the adhesive labels applied to the *WASHER*.



General danger, always pay attention to manoeuvres.	Read the instruction Manual carefully before starting work.	Wear protective gloves and suitable clothing. P.P.E.	Wear goggles and personal protective equipment.
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### 10.3 CLOTHING AND P.P.E. (PERSONAL PROTECTIVE EQUIPMENT)

The operator must use solvent/acid resistant gloves to prevent contact of the hands with any products used for washing. The operator must always wear protective goggles to prevent any spurts of the product from coming into contact with the eyes.

The use of water-based products does not exclude the need for suitable clothing and risk assessment related to the working environment, in conformity with Law 626/94 as regards Italian legislation and the laws in force in the relative country for use of the machine outside Italy.



### 10.4 SAFE USE

Do not use the machine if you or others have not read the contents of this manual. It is forbidden to use or allow to use the machine by unskilled staff or staff that have not been adequately trained or those who are unwell.



In the washing fluids come into contact the skin or eyes, wash the area concerned with plenty of water contact a doctor. Take the detergent MSDS sheet with you.



Make sure that operating staff are familiar with the controls and their functions before starting works.

### 10.5 NUMBER OF OPERATORS

Only one operator is needed to operate the machine. The presence of other staff is only permitted during the phases of installation, maintenance and dismantling. In all cases, the staff using the machine, must satisfy the requisites described in the previous paragraph.



### 10.6 INCORRECT USE OF THE MACHINE

The machine has been designed for professional use only, as described in paragraph 10.1 –Foreseen use.



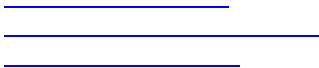
Any other use may cause damage to the machine and/or create dangerous situations for which the manufacturer will not be held responsible.

Specifically:

The machine must not be used for washing or degreasing objects destined to come into contact with foodstuffs.



Any other use may cause damage to the machine and/or create dangerous situations for which the manufacturer will not be held responsible. The national laws relating to the use and disposal of products used for cleaning and for washing parts as well as for the disposal of the machine itself must be observed.



### 10.7 GENERAL SAFETY AND ACCIDENT PREVENTION REGULATIONS

This machine must be destined solely for the use for which it has been expressly designed. The manufacturer will not be considered responsible for any damage to people, animals and things deriving from improper, incorrect or unreasonable use of the machine (see Chapter 5.9 – Liability).



Disconnect the electricity supply before carrying out any cleaning or maintenance operations.

In the case of failure and/or poor functioning of the machine, disable it, do not intervene directly but consult a service centre authorised by the manufacturer and use only original spare parts.

The user is bound to monitor the correct environmental conditions (e.g. cold or high temperatures) where the machine is situated, which may affect its performance and/or severely damage it.



It is expressly forbidden to use equipment with a naked flame or welders or to handle incandescent materials near the machine.

The national laws relating to the use and disposal of the products used for cleaning and washing parts, as well as for the decommissioning of the machine must be observed (see Chapter 13 – Disposal, decommissioning and dismantling).

### 10.8 RESIDUAL RISKS

When using the machine serious attention must be paid to the so-called residual risk areas or to the surrounding working areas, which might constitute a risk to people or objects if there is any incorrect use, errors of judgement, negligence or failure to follow the instructions contained in this manual.

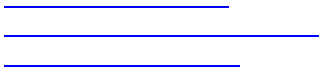


### 10.9 NOISE EMITTED BY THE MACHINE

The noise level emitted recorded at various points around the machine, and in all operational phases, is always lower than 70 dBA.





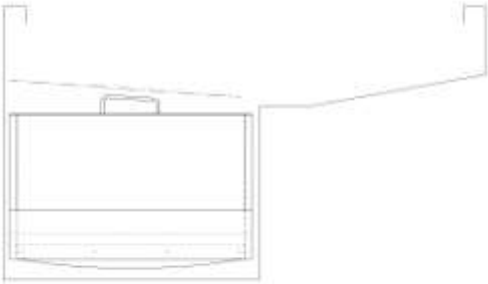


# 11 OPERATING

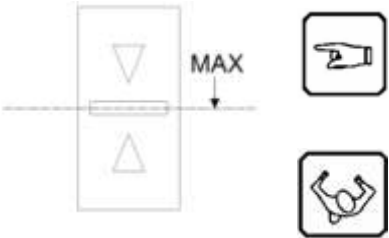
## 11.1 PRELIMINARY OPERATIONS

After carrying out installation the user may proceed to the operating phase by completing the following preliminary operations:

- 13) Make sure that the drainage valve of the tank is closed.
- 14) Open the Lid.
- 15) Make sure the filter is seated correctly into its seat and the lower seal is in contact with the back of the tub. For the correct orientation, match the inclination of the handle with the inclination of the crosspiece of the tub and that the slide surface will cover.



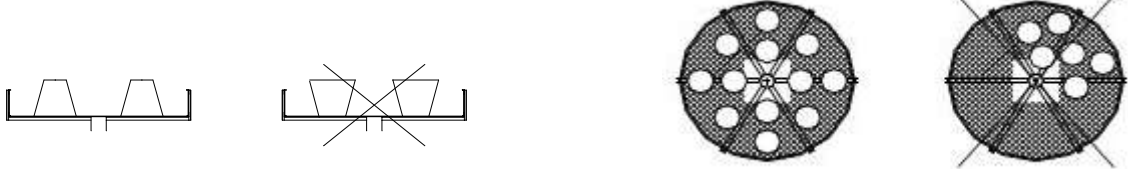
- 16) Make sure the *upper drain* and *filter* are in the correct position and seated correctly.
- 17) Use the correct amount of detergent according to the instructions on the label of the detergent in use and pour it into the tank. The machine has an external level indicator to prevent the pump from being activated when the tank is empty and thus getting damaged. The level of the washing liquid should be monitored by the machine operator.



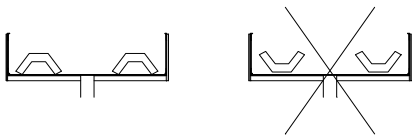
- 18) Close the *lid*.
- 19) Turn on the pump by switching the mains switch of the control panel to "ON" and turning the timer to 3 minutes, so as to obtain a detergent solution without foam.

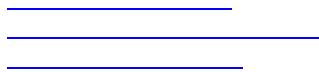
## 11.2 LOADING

Place the parts to be washed inside the *basket* in a stable manner and arrange them over the bottom of the basket evenly as shown in the figures below.



Prevent the formation of possible pockets which might retain the detergent liquid. Do not exceed the weights indicated in the technical data table.





### 11.3 WASHING OF PARTS

- 20) Lower the *Lid*.
- 21) Turn the mains switch to ON; the machine warning light will come on.
- 22) Press RESET/START Button.
- 23) For the heated versions, set the washing temperature by using the *thermostat* (for safety reasons: burn the temperature of the liquid still NOT goes over 60 ° C); the *heater light* will come on. In the versions with two resistors it is possible or not to use the secondary resistance through the selector. In this way it will turn on whether or not the indicator of the same selector t. The function of the *secondary heater* is to reduce the time of the heating phase of the washing liquid but obviously this results in an increased consumption of electricity.
- 24) Wait for the temperature to reach the set value, at which time the *heater light* will go off.
- 25) Set the washing time using the *timer*; the *pump light* will come on and in the motorised versions the *basket light* will come on too; the washing cycle will begin and stop automatically when the set time expires.

### 11.4 UNLOAD THE PARTS

Caution: when the washing cycle is finished wait at least four minutes before opening the lid; this is to allow the basket to slow down and stop and to allow partial drying of the parts (in the heated versions). Opening the machine while operating may cause injury



- 26) Turn the *mains switch* to “OFF”.
- 27) Raise the *lid* of the machine.
- 28) Take out the parts, turning them over so to empty out any liquid trapped in internal cavities.
- 29) Close the *lid* of the machine again.

### 11.5 SEPARATOR/OIL SKIMMER (ONLY ON MODELS FITTED WITH SUCH)

The separator's function is to extract the supernatants (light, oily material present on the upper surface of the film of water in the tank) and drain them off through the *drainage tap* mounted on the outside of the front of the machine. It is composed of a *disc* made to rotate by a *geared motor*. Said *disc* partly immersed in the washing liquid gathers the oily part of the washing liquid on its surface by adhesion. The disc is then cleaned by mechanical scraping, and the grease is collected into a small trough, which drains off to the outside of the machine.

The separating of the washing liquid must be done with the washing cycle off so as to allow the oily residues to float. It is also best to perform separating when the washing liquid is at room temperature, to encourage the coalescence of the oily particles which are finer in the hot liquid.

The separator only functions if the *separator disc* is immersed by at least ¼ of its diameter in the washing product. Proceed as follows:

- 30) Before turning on the separator place a suitable recipient under the *drainage tap* to catch the grease skimmed off the washing liquid.
- 31) Open the drainage tap.





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- 32) Turn the *on/off separator selector* to On. The duration of the separation cycle varies depending on the amount of supernatants which need to be removed.
  - 33) Stop the oil skimmer only when you see no more grease coming out of the *drainage tap*.
  - 34) Close the drainage tap.

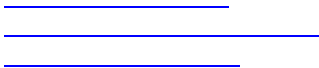
## 11.6 CHECKS

**CONTROL OF WASHING LIQUID:** Prior to use check the level of the washing liquid detergent. The machine is equipped with a level sensor and will lock if insufficient fluid is in the machine preventing damage to the pump and heater. An indicator warning light water level low will come on. Restore the level of the washing fluid upto maximum fill indicator and press the button start/reset.

**CHECK FOR ANY PARTS OUT OF POSITION:** Before each wash check that none of the parts have fallen from the *basket* and are obstructing its rotation, wich will cause damage to the basket (in the case of motorised basket) and lead to a poor clening results.

**CONTROL CLEANING BASKET FILTER:** Before each wash check filter clear level. Obstruction of this filter may lead to damage of the pump as it will draw air from the non-immersed part of the filter itself (cavitation). In this situation, the pressure of the wash jets will go to decline compromising the efficiency of the washing system. Prolonged use of the machine in this situation may ruin the inner components of the washing pump.

At the end of the working day, remove the wash basket and empty out the filter.

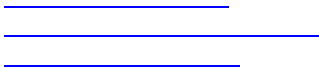


## 12 TROUBLESHOOTING

Occasionally poor functioning of the machine may occur. In such cases refrain from using the machine and organise the necessary maintenance before incurring in risk of accidents or damage.

Call the manufacturer for any information or if you have any doubts before intervening.

MALFUNCTION	
CAUSE	REMEDY
The drain does not work	
The drain is blocked.	Unscrew and clean the basket filter.
The pump cavitates	
The basket filter is dirty.	Turn the ON/OFF selector to ON.
The heating does not work (heated versions only)	
The ON/OFF selector is in the OFF position.	Restore the electricity supply; Press the START/RESET button.
the control panel is blocked.	Restore the correct level of detergent liquid; Press the START/RESET button.
Absence of electricity.	Replace the fuse.
Absence of detergent liquid inside the drum.	Set a higher temperature.
Heater fuse has blown.	The washing cycle does not start
The thermostat is set too low.	Close the lid properly.
The washing cycle does not start	
the safety switch does not close properly.	Close properly the lid.
No power supply.	Restore the power supply and press the START/RESET button.
The breaker switch of the pump has triggered.	Reposition all the parts to be washed correctly.
The minimum level light is on. Reached the minimum level of the liquid	Restore the correct level of the cleaning liquid on the tank. Press the START/RESET button
A part is preventing the free rotation of the basket.	
The breaker switch of the motor has triggered (motorised version only).	Reposition all the parts to be washed correctly.
The clutch of the geared motor slides (motorised version only).	The separator does not turn (only version with separator)
Load in basket unbalanced, excessive or not evenly distributed.	Reposition all the parts to be washed correctly.
The separator does not turn (only version with separator)	Identify the cause which has triggered the breaker switch and repair it.
A part is preventing the free rotation of the separator disc.	
The breaker switch of the motor has triggered.	Clean the drain and the drain valve.
The clutch of the geared motor slides.	The pump does not aspirate the detergent product
MALFUNCTION	Unscrew and clean the basket filter.



## 13 DISPOSAL, DECOMMISSIONING AND DISMANTLING

### 13.1 INSTRUCTIONS FOR THE DISPOSAL OF EXHAUSTED FLUIDS

Remember that it is strictly forbidden to disburse the exhausted fluids (water and diluent) into the surrounding environment.

These fluids are actually classed as special waste and must be disposed of in conformity with the provisions of your local regulations.

The user must therefore store them in an area set aside for the purpose in containers suitable for the type of fluid and protected from accidental spillage.

In addition the user must keep a register of loading and unloading of waste in accordance with the local regulations.

In all cases, the user must comply with all the legal obligations in force with regard to the correct disposal of waste.

Remember that every state has its own specific legislation on waste management and that the user must therefore comply with such legislation.

### 13.2 DECOMMISSIONING

The following procedure should be followed when the machine is decommissioned for a fairly long period of time.

- Remove all pneumatic supplies;
- Clean all the machine parts with specific products;
- Protect the machine from dust and dirt;

Protect the machine from damp and rain.

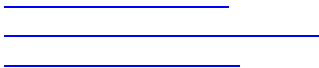
### 13.3 DISMANTLING

At the end of the life-cycle of the machine, the company using it must provide for the dismantling of the machine in observance of the regulations in force, which provide above all for the general cleaning of the various components and, subsequently, for the separation of the parts making up the machine. The various materials are then separated, for example, the metallic parts, the plastic materials etc., and sent to designated waste disposal facility.

When dismantling the machine, remember that:

It is obligatory to wear appropriate P.P.E.t, such as shoes, gloves and goggles

It is obligatory to highlight the working area and prohibit access to unauthorised persons.



## 14 MAINTENANCE

The maintenance of the equipment must be performed by qualified personnel, following the instructions of this manual. Disconnect the air and electric supply before performing maintenance or repairs.

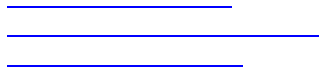
Adhesive label warnings are absolutely essential. Make sure the safety stickers are always cleaned and intact. If not replace it with new ones.

**Warning!** Periodically clean the whole WASHER appliance with suitable detergents. Extraordinary maintenance operations can be performed only by skilled personnel: contact the manufacturer for the extraordinary maintenance operations.

Extraordinary maintenance operations are reported in the table and usually coincide with the breaking of the equipment components.

Periodically check the integrity and functionality of the safety devices: must be cleaned periodically from build up of dirt and discharges, on control valves.

The warning stickers (labels) must be kept clearly in view, cleaned and replaced immediately when deteriorating, damaged or removed.



Maintenance operations register

A periodic inspection and cleaning (usually weekly) should be carried out to ensure good, correct functioning of the machine. During this check, the maintenance operations described in the appropriate chapter should be performed.

Remember that maintenance and a preventive check (required by the legislation on safety at work) helps to prevent machine failure and machine downtime.

Fill up the following table in a legible manner:

DD/MM/YY	TYPE OF INTERVENTION	OPERATOR	OPERATOR SIGNATURE